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SUBJECT: Israel's Search for More Capable Submarines

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[redacted]
Central Intelligence Agency

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Washington, D.C. 20505

DIRECTORATE OF INTELLIGENCE

28 April 1986

Israel's Search for More Capable Submarines

Summary

Israel wants to procure three Dolphin-class diesel subamrines with the US Foreign Military sales funds to replace the three Type 206 subamrines currently in its inventory. The Israeli navy would like to take delivery on the first submarine in 1992 to support its ambitious plans for a "blue water" navy capable of operating more widely and for extended periods in the Central Mediterranean and Red Seas. In our judgment, submarines of this particular design are not absolutely essential to the Israeli navy's ability to perform its traditional missions. We do not believe that a two or three year delay in the delivery of these vessels would seriously degrade the navy's ability to defend Israel. [redacted]

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* * * * *

The acquisition of three Dolphin-class diesel submarines by the early 1990s is one of the Israeli navy's top procurement priorities. In our judgment, boats of this particular design are not absolutely essential to the Navy's ability to perform its traditional missions of coastal defense, maintenance of sea lines of communication, and support of air and ground combat operations. Without the Dolphins or submarines of similar capabilities, however, the Israelis cannot realize their ambitions to operate more widely and for extended periods in the Central Mediterranean and Red Seas. [redacted]

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This memorandum was prepared by [redacted] the Israel-Jordan-PLO Branch, Arab-Israeli Division, Office of Near Eastern and South Asian Analysis, and [redacted] Office of Scientific and Weapons Research, with a contribution by [redacted] the Subcontinent Branch, South Asia Division, Office of Near Eastern and South Asian Analysis. Information as of 25 April 1986 was used in its preparation. Comments and questions should be directed to Chief, Arab-Israeli Division, [redacted]

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[redacted]

Israel wants to continue to modernize its navy because of the growth of Arab fleets--mainly those of Syria and Libya--in recent years (see Annex). It has been particularly anxious to develop a "blue water" submarine capability to assist in monitoring Libyan naval activities, especially those supporting terrorist missions. Israel also probably wants to be able to insert and remove commando teams. In wartime, the Israelis would prefer to destroy Libyan combatants--particularly Libya's five operational diesel subamrines--well before they get within striking range of Israel's shores or bottle them up by mining harbors. [redacted]

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Capabilities of Dolphin-Class Submarines

Dolphin-class subamrines are not particularly well-suited for some of these duties. Diesel submarines cannot move quickly from one area to another without giving away their position, and submarines in general are poor platforms for broad-sea reconnaissance missions, such as monitoring terrorist activities, unless they are acting on very detailed intelligence tip-offs. Moreover, the vast majority of Arab surface combatants that could threaten Israel are guided-missile patrol boats whose high speed and small size make them difficult targets for a submarine to engage. Other systems, particularly maritime patrol aircraft and longer-range fast patrol boats, contribute more than submarines in broad-area searches and the long-range interception of surface vessels and submarines. [redacted]

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Nevertheless, the Dolphin-class submarines are more capable than the Type 206 boats currently in Israel's inventory. The Dolphins' 4,500-nautical-mile range is nearly double that of the Type 206s', and their endurance is 50 percent greater. Moreover, the Dolphins carry 60 percent more torpedoes or antiship missiles and require only four more crewmen to operate. They can also sow mines--which Israel's Type 206s cannot--and transport a much larger commando contingent. [redacted]

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The navy says it wants to replace its three Type 206 boats with these new and better Dolphins combatants by 1992, when the Type 206s will near the end of their service lives. [redacted]

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[redacted] have already discovered cracks in the hulls of their Type 206s. These structural problems and the experience that other navies have had boats of similar design make the Israelis reluctant to keep their Type 206s in service much past the early 1990s. [redacted]

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Budgetary Problems

The Israeli military establishment is grappling with defense budget cuts, and the navy, which has traditionally been the stepchild of the Israel Defense Forces, stands to lose heavily in the interservice competition for procurement funds. []

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[] the Ministry of Defense is aware that naval construction has been ignored for the last several years and cannot be postponed any further. []

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The commander of the navy has argued that \$13-23 million in Foreign Military Sales (FMS) monies must be obligated in the next few months for preliminary design and contract work and long-lead procurement if the navy is to receive attack submarines by 1992. Nevertheless, Tel Aviv may ultimately be forced to help adjust for cost overruns of the Lavi fighter aircraft program by delaying the acquisition of the Dolphins. In our view, a two or three year delay in delivery would not seriously degrade the Israeli navy's ability to carry out its principal missions. []

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Tel Aviv wants to finance the submarine program, which US defense officials say will cost about \$450 million, with FMS funds. US off-shore procurement policy, however, is proving troublesome to the Israelis, who had hoped to convince Washington to approve the off-shore expenditure of FMS funds to have the Dolphin hulls built in West Germany by Howaldtswerke-Deutsche Werft (HDW), a shipbuilding firm with extensive experience in submarine construction. []

[] approval for this plan will not be forthcoming, nor, according to press reports, will a US shipyard construct the boats. []

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Israeli Shipbuilding

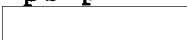
It appears that the only alternative will be for Israel Shipyards, Ltd. to build the submarines at its yard in Haifa. Although Israel Shipyards, Ltd. has built nearly 60 ships, various heavy steel structures for Israel's petrochemical industry, and large storage tanks, it has never attempted the complex task of submarine construction. Naval construction experts consider the firm's personnel to be skilled and resourceful, but the yard probably would still need substantial technical assistance from West German design engineers and construction specialists to assemble the boats nearly as efficiently as HDW. []

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India's experience in assembling Type 209 submarines may be instructive. The Mazagon Docks in Bombay also had had fairly broad experience in ship construction, but had never built a submarine. Its personnel had major problems in mastering the welding techniques necessary to connect the pressure hull sections properly, even though Indian shipwrights had directly assisted in the construction of the first two hulls at the HDW



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yard in Kiel. Moreover, Indian machinists were not accustomed to working to the close tolerances specified for installation of the submarines' propulsion systems. These problems resulted in major delays. 

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ANNEX

Israeli military planners routinely produce worst-case assessments. Their view of the Arab-Israeli naval balance is no exception. They usually include Egyptian forces in their threat assessments, even though Cairo has continued to adhere to the 1979 peace treaty with Israel. The bulk of Egypt's naval inventory, moreover, is obsolete and in poor condition.

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		Syria-Egypt-Libya ¹	Ratio	
Destroyers	0	3	0:3	
Frigates	0	8	0:8	
Missile Patrol/Attack	24	58	1:2.4	
Missile Hydrofoils	2	0	2:0	
Patrol	50	59	1:1.2	
Submarines		21	1:7	25X1
				25X1

When Egypt is removed from the calculations, the ratios change significantly, leaving Israel in a relatively comfortable position.

		Syria-Libya ¹	Ratio	
Frigates	0	2	0:2	25X1
Missile Patrol/Attack	24	28	1:1.2	
Missile Hydrofoils	2	0	2:0	
Patrol	50	3	16.7:1	
Submarines		7	1:2.3	25X1
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Because the size and content of Syria's weapons inventory is so heavily dependent on Soviet support levels and Libya's forces currently are at great risk, it is difficult to estimate of Arab naval force structure in the mid-1990s. We believe, however, that the Syrian or Libyan naval inventories of 1995 probably will be as large or larger than they are now, unless they destroyed in a general Arab-Israeli war.

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¹ This tabulation includes only those Libyan combatants with the range and endurance to operate in or near Israeli waters.

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